Neurobotics™

The Future is Here. Real. Now.

PUBLIC RECORD: ARCHITECTURAL GENESIS & PROVENANCE

Neurobotics™
The Future is Here. Real. Now.

PUBLIC RECORD: ARCHITECTURAL GENESIS & PROVENANCE

DOCUMENT ID: NBPR-2026-0028

SUBJECT: Chronological Prior Art and Theoretical Genesis

PRINCIPAL ARCHITECT: Kenneth Renshaw (CEO & CSO)

ENTITY: Neurobotics LLC | Yale, Oklahoma

CLASSIFICATION: Public Open-Source Record / Zenodo Hosted

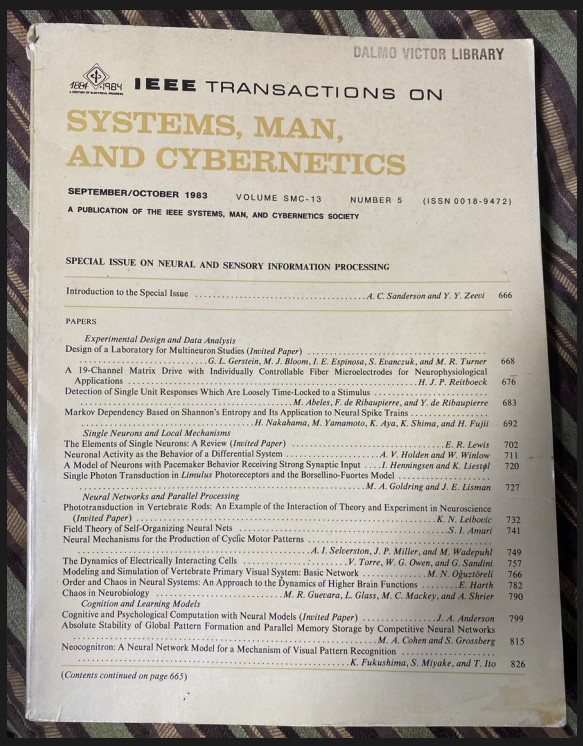
[1.0] Executive Profile & Engineering Pedigree

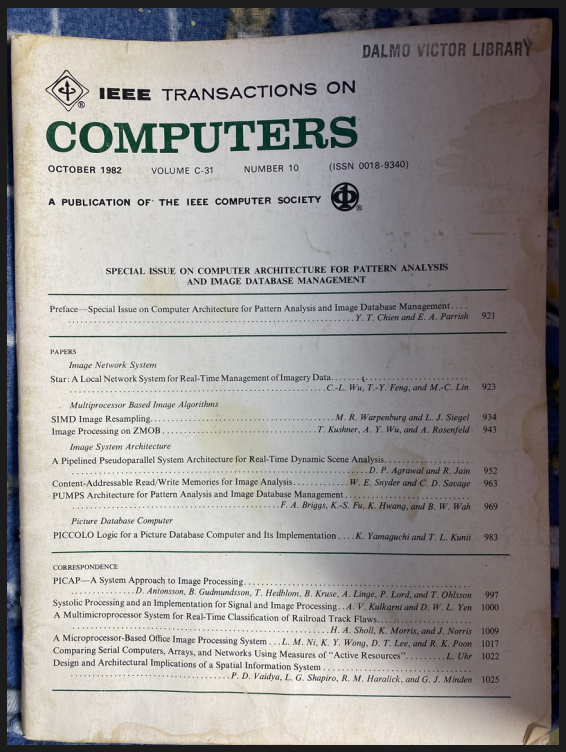
Kenneth Renshaw is the Co-Founder, Chief Executive Officer, and Chief Science Officer of Neurobotics LLC. With over 50 years of continuous bare-metal computation, hardware design, theoretical physics, and neuroanatomical modeling, he is the sole primary architect and inventor of the **Silicon-Based Artificial Life Form (SBALF)** architecture.

His engineering instinct was forged in zero-tolerance aerospace, electronic warfare, and deep-space mission environments where operational failure was not an option:

- **Aerospace Electronic Warfare (Dalmo Victor / Bell Aerospace):** Designed radar warning systems for the F-14 Tomcat and EF-111A Raven.
- **Deep-Space Computing (Litton Industries Applied Technology):** Engineered ATAC-16 spacecraft computers for the Galileo Space Probe, designing radiation-hardened hardware with voter circuits and error correction for survival in deep space.

- **Global Air Safety (TCAS II):** Key contributor to the Traffic Alert and Collision Avoidance System (TCAS II), establishing the foundational design philosophy that governs all Neurobotics systems: "*Design so that the failure mode is not death.*"

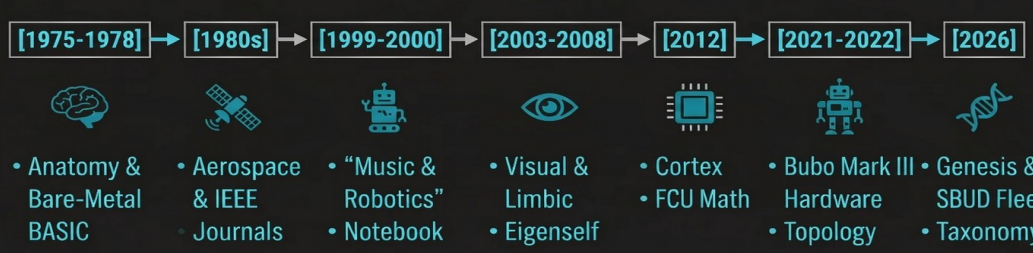




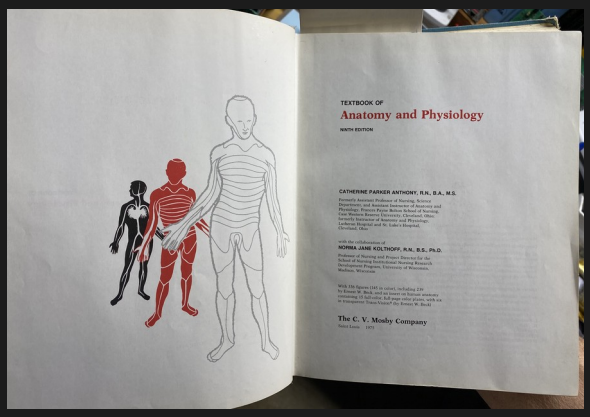
September/October 1983 *IEEE Transactions of Systems, Man, and Cybernetics* | October 1982 *IEEE Transactions on Computers* with the Official **Dalmo Victor Library** stamp; From the Personal Library of Kenneth Renshaw

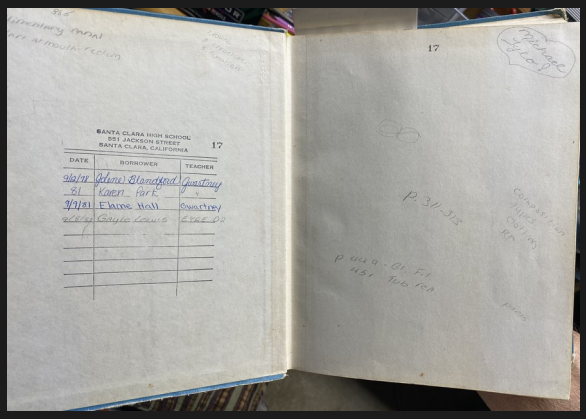
[2.0] Complete Chronological Prior Art Timeline

The SBALF architecture is not an adaptation of recent cloud-based software trends; it is the culmination of a half-century of continuous physical ledgers, handwritten notebooks, and empirical biological modeling.



- **1975–1978: Anatomical Bedrock & Bare-Metal Foundations**
    - *Anatomy & Physiology Ledger:* A 1975 *Textbook of Anatomy and Physiology* containing the exact Brodmann area maps and spinal interneuron layouts studied by Kenneth at age 16.
    - *1977 IMSAI 8K Assembly Folder:* A bound binder containing hand-annotated Intel 8080/Z80 assembly code for an IMSAI 8K BASIC interpreter, establishing a 50-year prior art claim for hyper-efficient, register-level compute.





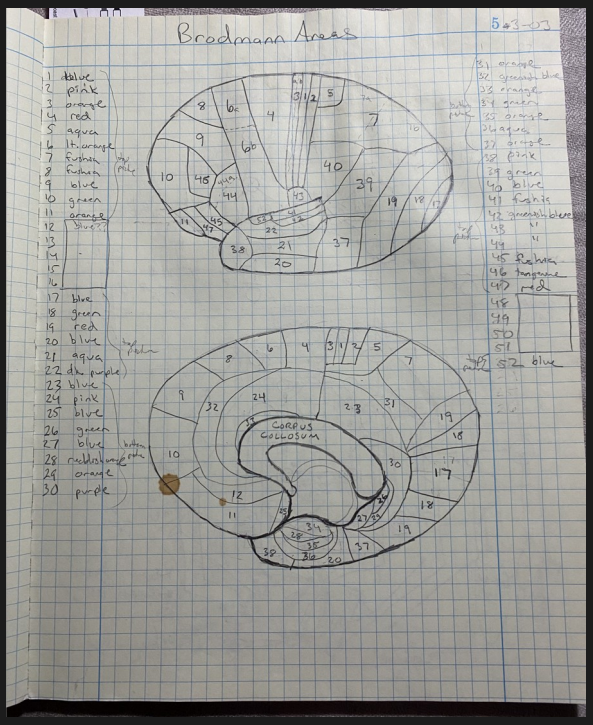
The Inside cover page of the 1975 *Textbook of Anatomy and Physiology Ninth Edition* by The C.V. Mosby Co. from Santa Clara High School | Santa Clara High School checkout card inside the Mosby Anatomy book; From Kenneth Renshaw's Private Library

- **1980s: Pattern Processing & Cybernetic Theory**
    - Implementation of early cybernetic literature, parallel image processing, and real-time scene analysis architectures.

A shelf of vintage *BYTE* and *Robotics Age* magazines from the 1980's era plus miscellaneous books and notebooks; From Kenneth Renshaw's Private Library

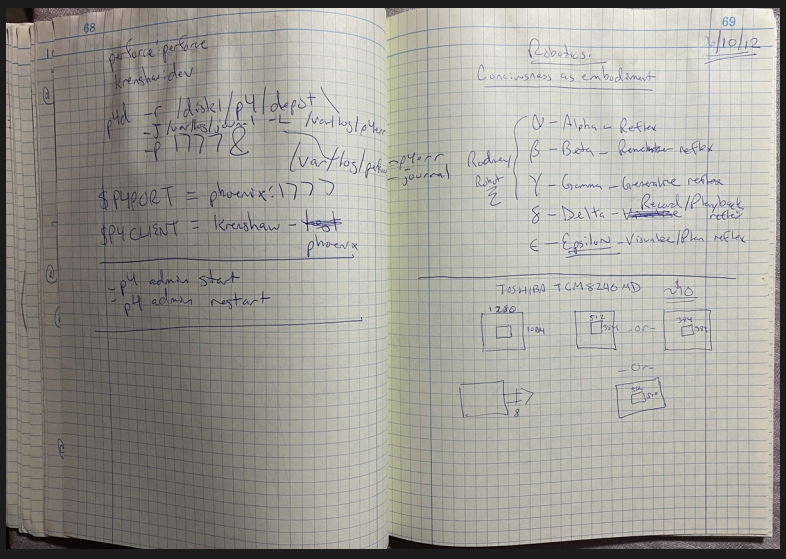
- **2003–2008: Visual Hierarchy & Biomechanics**
    - *Biological Pipeline Mapping:* Complete, color-coded mapping of all 52 Brodmann areas, establishing the biological pipeline:

      RGC -> LGN -> V1 -> V2 -> V4/V5 -> PIT/CIT/LIP/MST



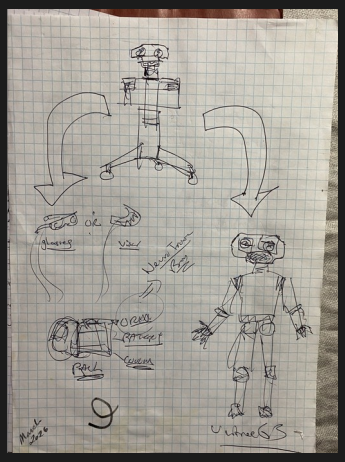
April/May 2003 "Red Notebook" (S-M-R Genesis) brown computational grid-paper notebook grid pages with the handwritten design notes and sketches of Color-coded Brodmann Areas; From Kenneth Renshaw's personal library.

- **2012–2013: Consciousness as Embodiment**
    - *The Philosophical North Star:* Formal documentation of the thesis "*Robotics: Consciousness as embodiment,*" mapping a strict hierarchy of physical chassis reflexes and mathematical calculations modeling the human cerebral cortex.



April/May 2003 "Red Notebook" (S-M-R Genesis) brown computational grid-paper notebook grid pages with the handwritten design notes and sketches "Consciousness as Embodiment" Reflex; From Kenneth Renshaw's personal library.

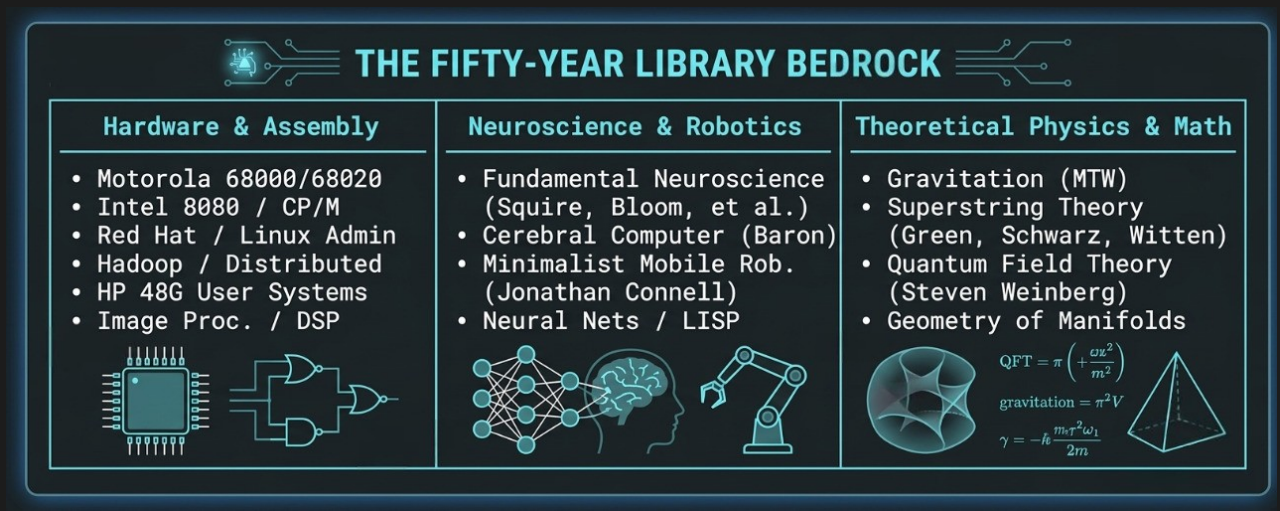
- **2021–2026: Physical Chassis & Commercial Initialization**
  - *Bubo Mark III & Beyond:* Dedicated hand-drawn upper-torso chassis blueprints bridging historical cognitive foundations to the modern, commercially viable SBUD form factor initialized in 2026.



Original Bubo
Mark iV Chassis
Sketch
March 2026

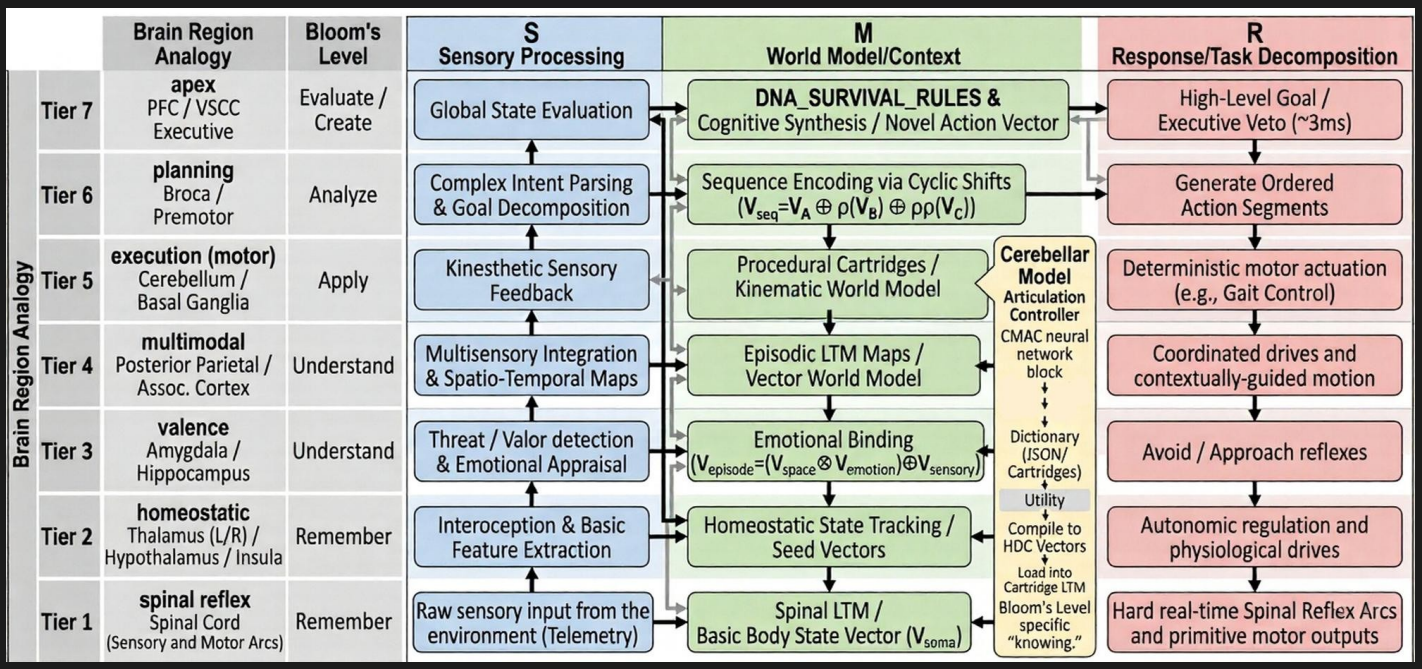
[3.0] Interdisciplinary Literature & Theoretical Bedrock

The physical library maintained continuously by Kenneth Renshaw across five decades represents the multi-disciplinary bedrock upon which the SBALF architecture was built, converging hardware, biological neuroscience, and theoretical physics.



[4.0] The 7-Tier Cognitive Architecture (S-M-R Matrix)

The operational core of the SBALF architecture is governed by a strictly deterministic, 7-Tier computational hierarchy. This matrix directly maps biological brain regions and Bloom's Taxonomy levels to a continuous pipeline of Sensory Processing (S), World Model/Context (M), and Response/Task Decomposition (R). This architecture guarantees that all cognitive synthesis is grounded in hard real-time telemetry, escalating from basic spinal reflexes to ~3ms executive overrides.



- **Tier 1: Spinal Reflex (Remember):** Raw environmental telemetry routes to the Spinal LTM (Basic Body State Vector, Vsoma) to execute hard real-time spinal reflex arcs and primitive motor outputs.

- **Tier 2: Homeostatic (Remember):** Interoception and basic feature extraction drive homeostatic state tracking, resulting in autonomic regulation and physiological drives.

- **Tier 3: Valence (Understand):** Threat/valor detection binds with emotional appraisal. Memory is encoded using Hyperdimensional Computing (HDC) vector binding, outputting avoid/approach reflexes.

- **Tier 4: Multimodal (Understand):** Multisensory integration builds episodic LTM maps (Vector World Model), enabling coordinated drives and contextually-guided motion.

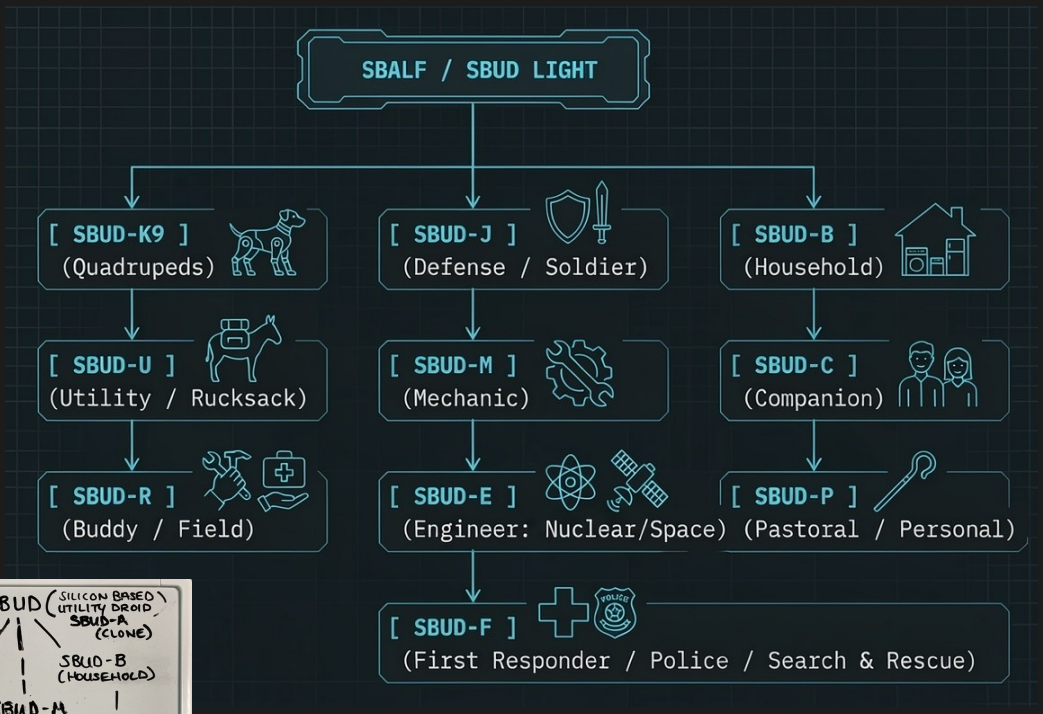
- **Tier 5: Execution / Motor (Apply):** Kinesthetic sensory feedback cross-references Procedural Cartridges (Kinematic World Model) for deterministic motor actuation (e.g., Gait Control).

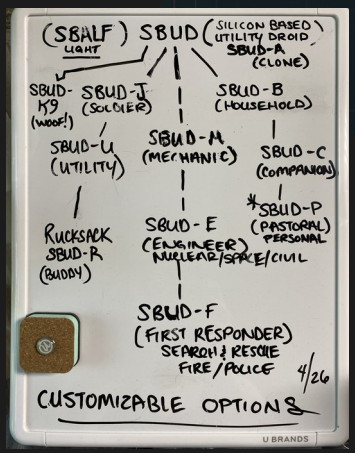
- **Tier 6: Planning (Analyze):** Complex intent parsing and goal decomposition. Action sequences are encoded via cyclic vector shifts, generating strictly ordered action segments.

- **Tier 7: Apex / Executive (Evaluate / Create):** Global state evaluation synthesizes with DNA_SURVIVAL_RULES to produce novel action vectors. This tier holds the ultimate High-Level Goal and Executive Veto (~3ms latency).

[5.0] Commercial Application Taxonomy: The SBUD Ecosystem

As documented on the Neurobotics Lab whiteboard following the March 21, 2026 initialization of Bubo Adam, the commercial scalable design and potential application is organized under the **Silicon Based Utility Droid (SBUD)** product lineage, specialized utilization, and customization options:



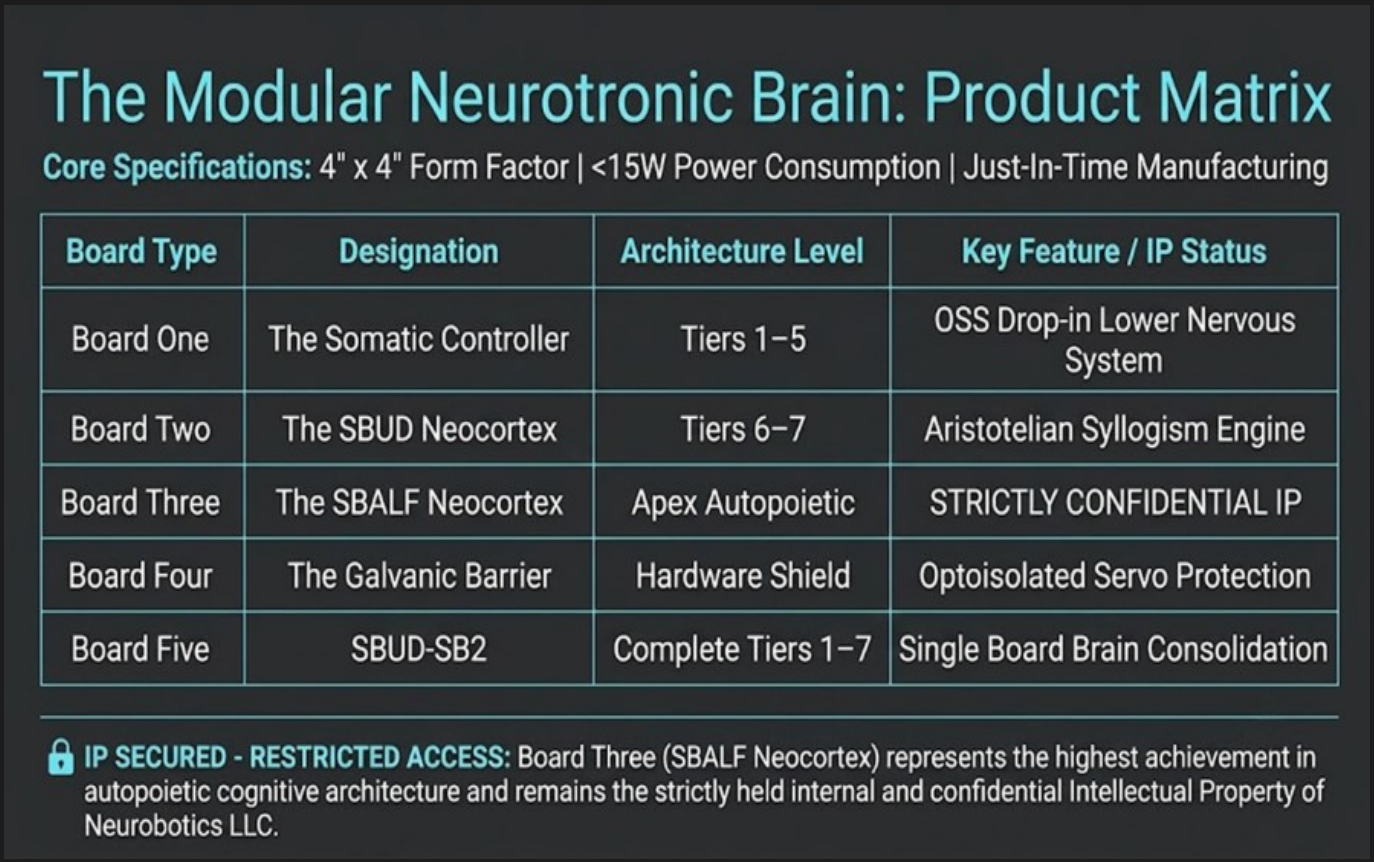


Original SBUD Naming, Concept, & Design Taxonomy Whiteboard Session April 2026; IP Artifact housed in the Neurobotics Lab

[5.0] Commercial Taxonomy: The Modular Neurotronic Brain

Neurobotics' mission is to bring true embodied cognition and deterministic control to the next generation of autonomous systems. We do not manufacture the physical chassis; rather, we empower the world's robotics manufacturers and autonomous vehicle developers by providing a true drop-in brain and nervous system.

Our product roadmap features a modular architecture comprising five distinct board types. All boards share a common form factor of a roughly 4-inch square circuit board, sipping power at less than 15W total under heavy processing loads (provisional metric dependent on exact card/hardening).

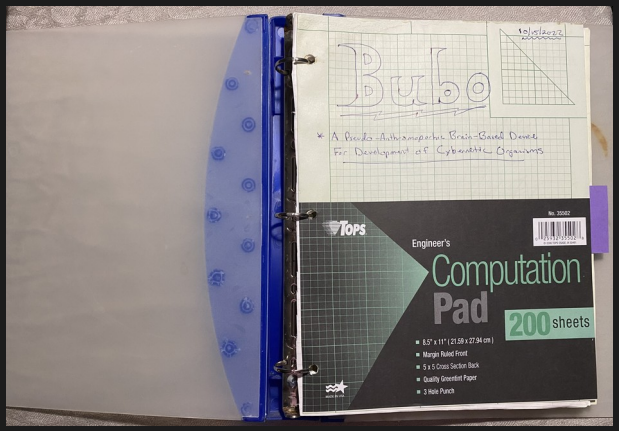


- **Board Type One: The Somatic Controller** A 5-tier architecture in silicon based upon our OSS release, representing the lower 5 tiers of our conceptual architecture. This provides manufacturers with a complete, drop-in lower nervous system. (OSS, drop-in solution)
- **Board Type Two: The SBUD Neocortex** Representing the top two tiers of our 7-tier architecture design, the Silicon Based Utility Droid (SBUD) Neocortex is a fully deterministic HDC/VSA implementation. It features a proprietary Aristotelian Syllogism Engine for learning, language, and knowledge representation.

- **Board Type Three: The SBALF Neocortex** The Silicon Based Artificial Life Form (SBALF) Neocortex represents the highest achievement in cognitive science as a fully autopoietic cognitive architecture. All versions are ***Strictly Held Internal and Confidential IP*** of Neurobotics LLC (Housed in the secure IP Vault).
- **Board Type Four: The Galvanic Barrier** An optional, fully optoisolated brain-body barrier that protects delicate core logic from the chaotic world of spiking servos and actuators. Available in multiple configurations.
- **Board Type Five: The SBUD-SB2 (Single Board Brain)** The ultimate consolidation, packing the entire SBUD 7-Tier architecture onto a single board design.
- **Manufacturing & Distribution** The complete Neurobotics Product Matrix will be available in multiple hardened component configurations for application in commercial, industrial, military, and radiation-hardened space-level markets. We will directly release and market the modular Neurotronic Brain components using a Just-In-Time (JIT) manufacturing distribution model under strict licensing. *(Note: All original design and implementation details are solely owned by Neurobotics LLC, with all rights reserved and enforced.)*

[6.0] Vault Verification & Forensic Proof

- **Physical Ledgers:** All original notebooks, composition books, binders, and marked technical manuals remain permanently secured at the Neurobotics Facility in Yale, Oklahoma.
- **Video Ledger Verification:** A continuous 46-second unedited physical flip-through video of the “Music & Robotics” brown grid-paper bound composition notebook, provides verifiable forensic proof of the sequential, tamper-proof nature of the 1999-2022 computation books. Video link: https://youtube.com/shorts/jTRQkqSMetg?si=-R9USWTeI8sO8wWk



Bubo three-ring binder ledger hand-drawn title page dated October 2022; From Kenneth Renshaw’s personal library.